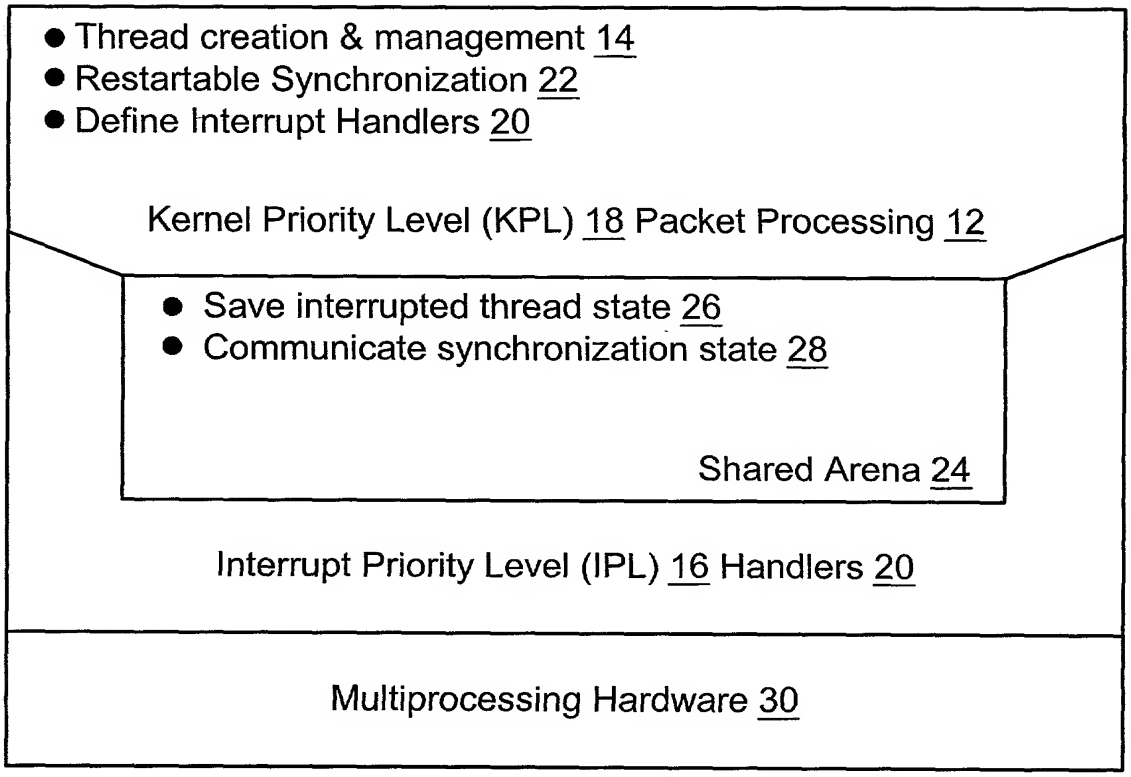
● Thread creation & management 14
● Restartable Synchronization 22
● Define Interrupt Handlers 20
Kernel Priority Level (KPL) 18 Packet Processing 12
● Save interrupted thread state 26
● Communicate synchronization state 28
Shared Arena 24
Interrupt Priority Level (IPL) 16 Handlers 20
Multiprocessing Hardware 30

FIG. 1

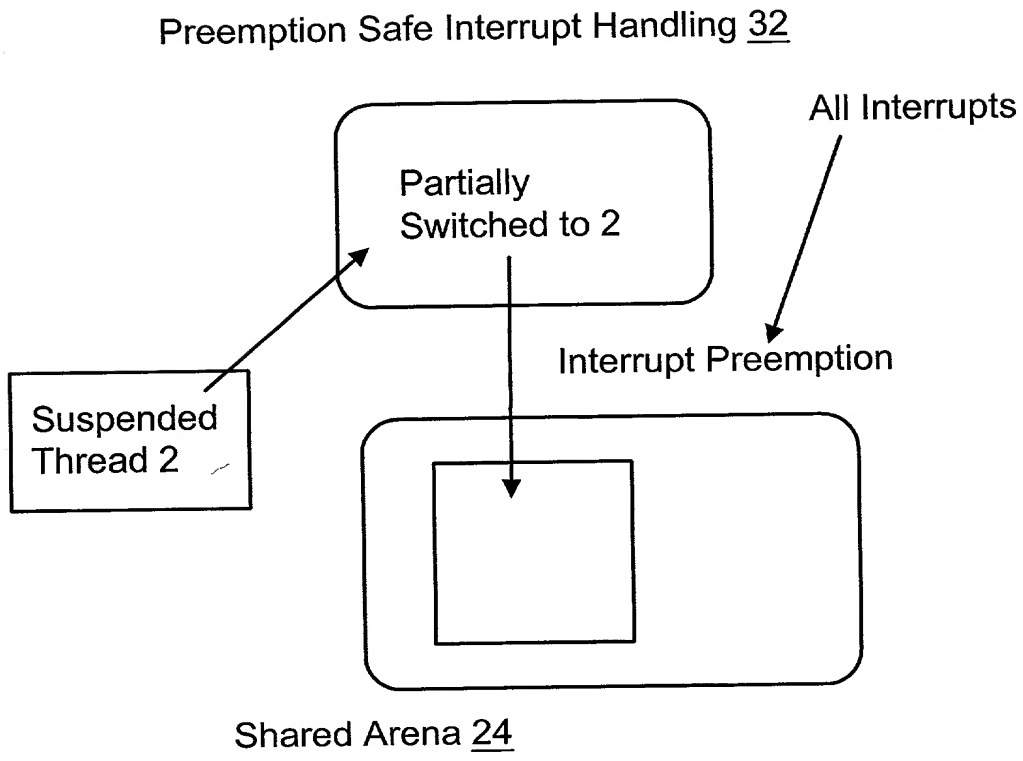
Preemption Safe Interrupt Handling 32
All Interrupts
Partially
Switched to 2
Interrupt Preemption
Suspended
Thread 2
Shared Arena 24

FIG. 2

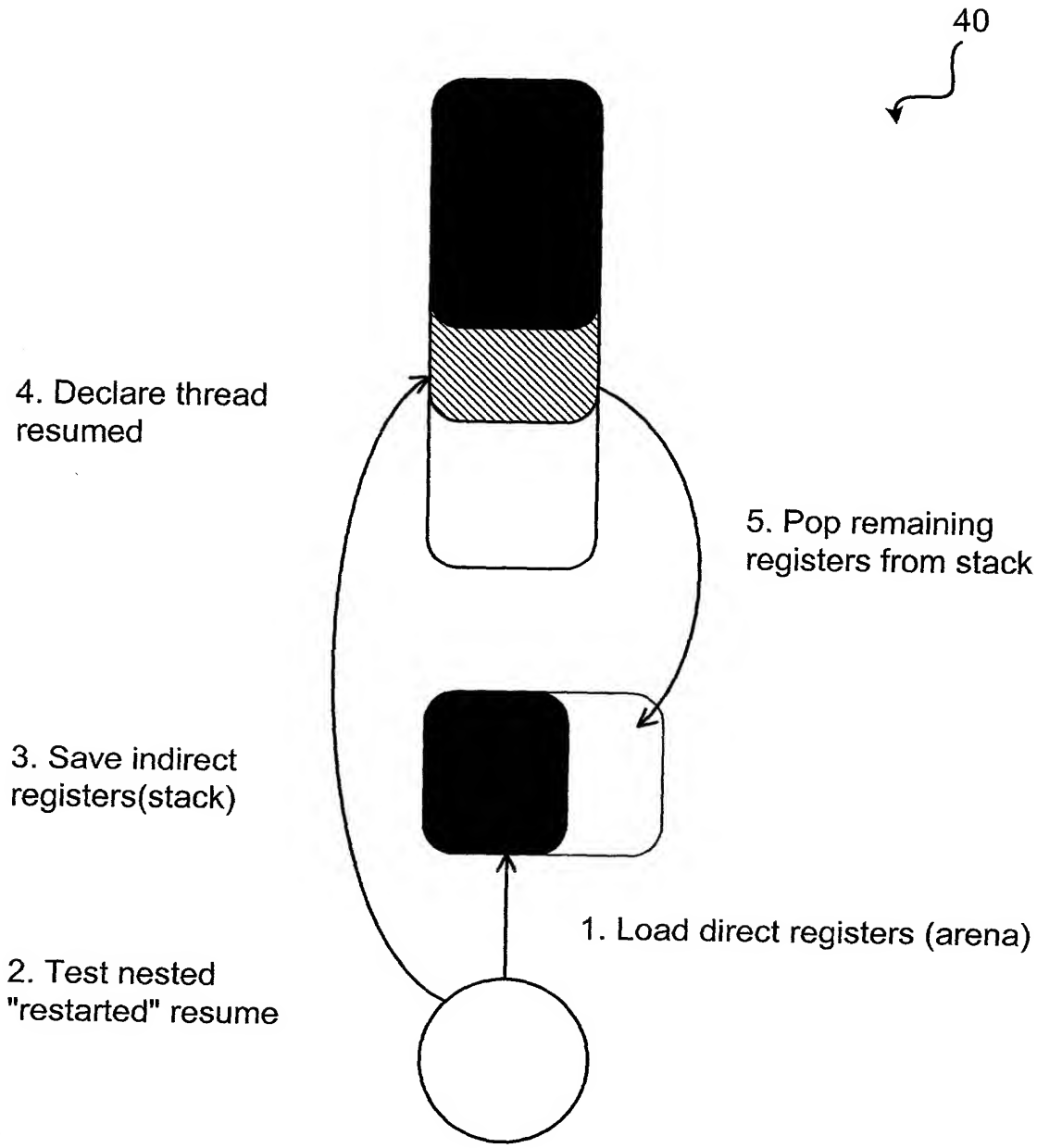
40
4. Declare thread resumed
5. Pop remaining registers from stack
3. Save indirect registers(stack)
1. Load direct registers (arena)
2. Test nested "restarted" resume

FIG. 3

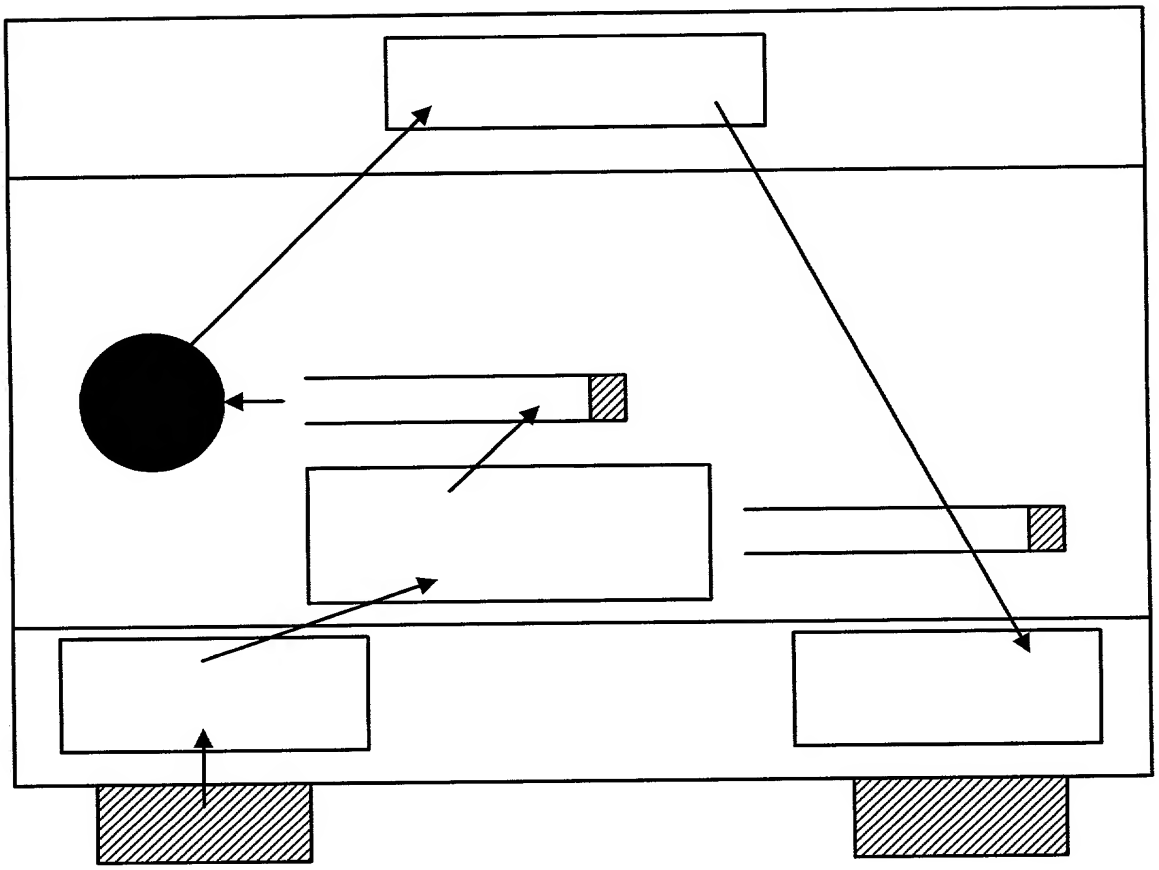

FIG. 4

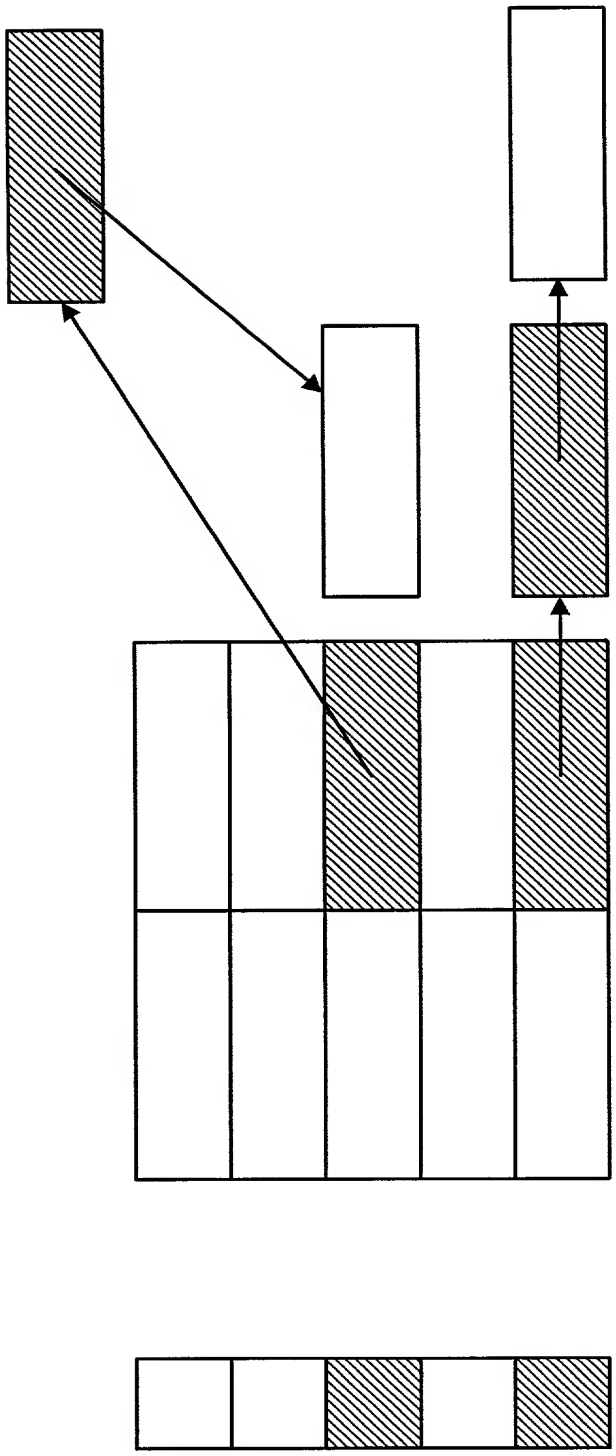

FIG. 5

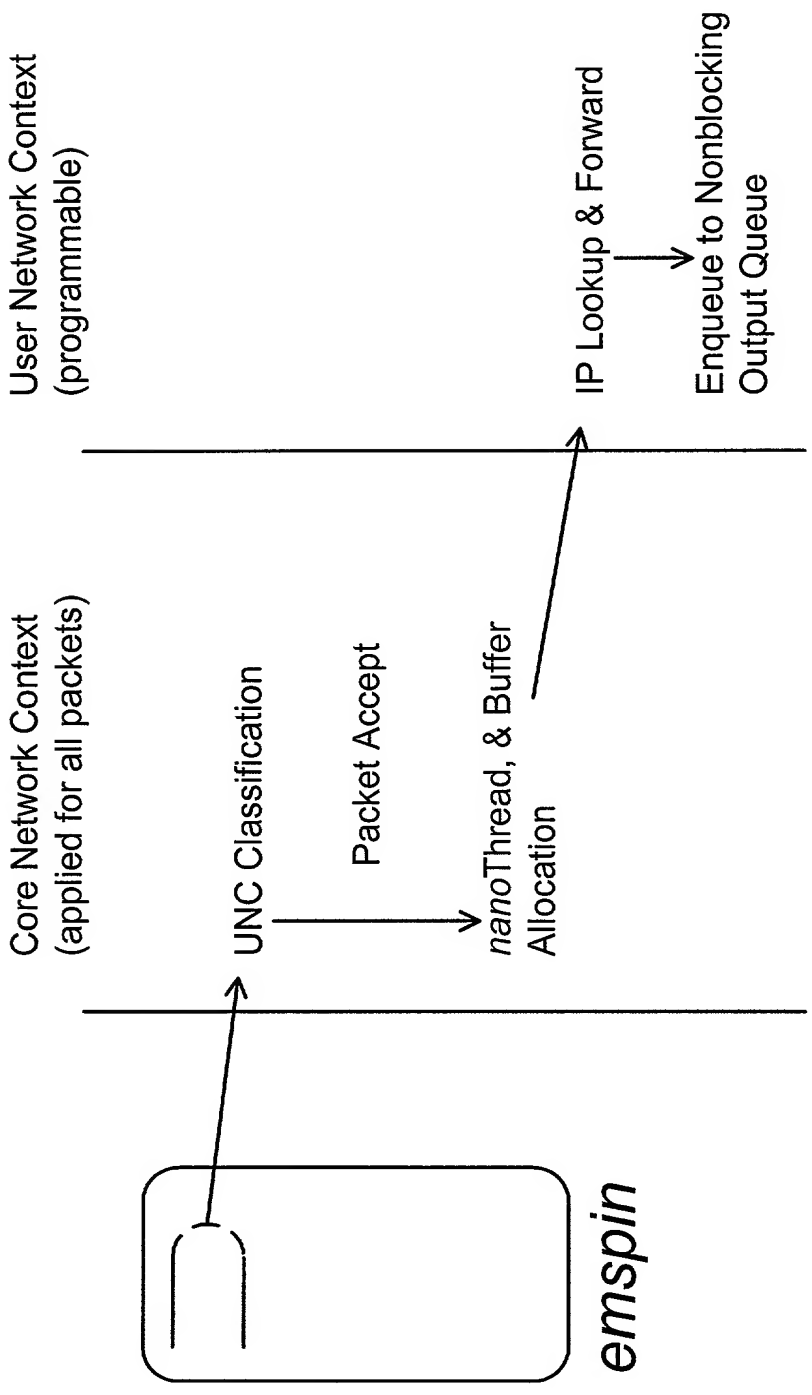
User Network Context
(programmable)
IP Lookup & Forward
Enqueue to Nonblocking
Output Queue
Core Network Context
(applied for all packets)
UNC Classification
Packet Accept
nanoThread, & Buffer
Allocation
Interrupt Handler
emspin

FIG. 6

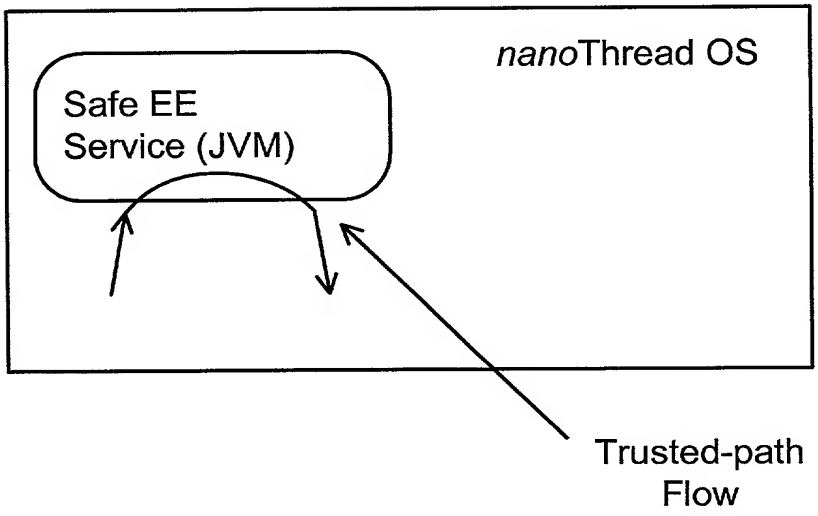

FIG. 7

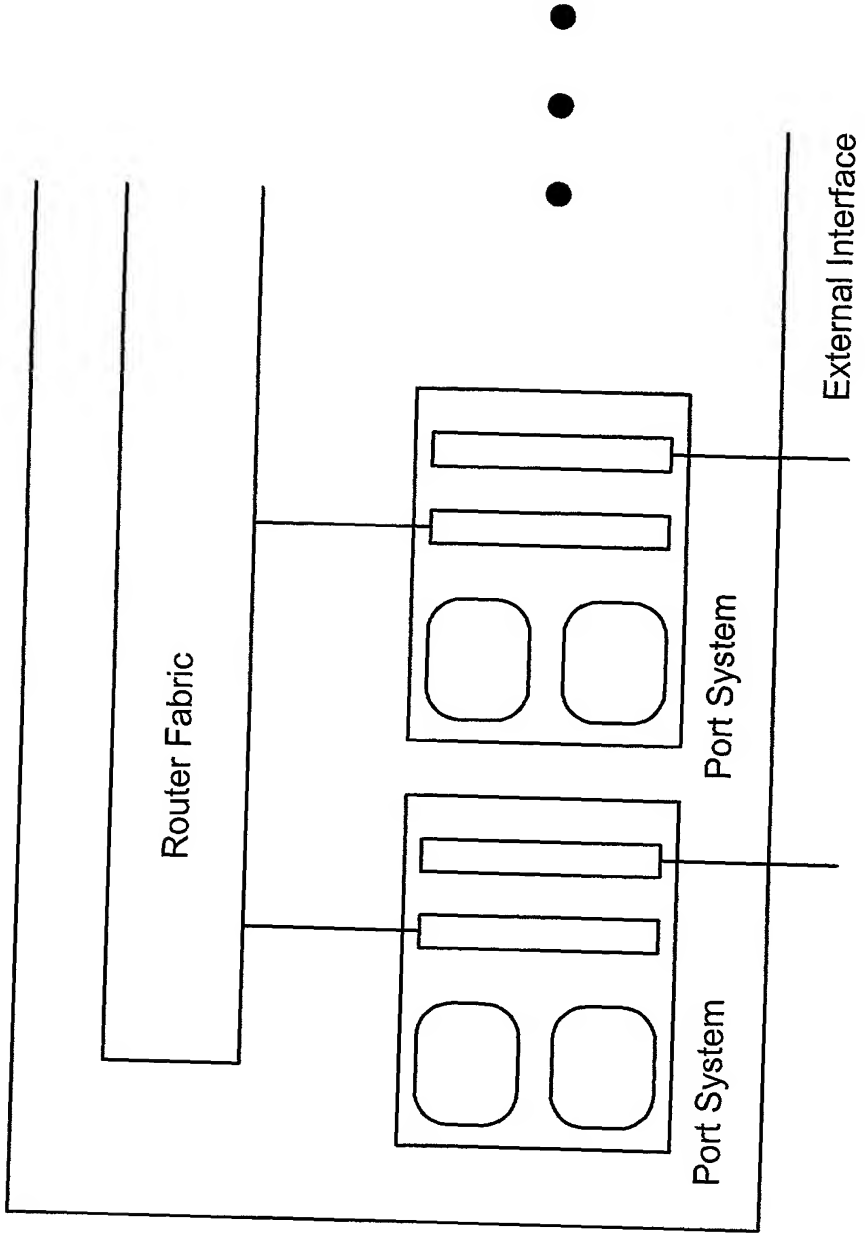

FIG. 8